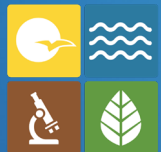


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NATURAL
RESOURCES

Handbook for Small Quantity Generators

Waste Management Program

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Introduction

This handbook is intended to help Small Quantity Generators (SQGs) of hazardous wastes comply with federal and state hazardous waste laws and regulations. Small quantity generators can include both large and small businesses, as well as public institutions such as schools, hospitals, clinics, universities, and communities. This handbook is a simple overview of the regulations and not intended as a substitute for the regulations. Please refer to the federal Hazardous Waste Regulations at 40 CFR 261-262 and the state requirements at 10 CSR 25-5.262 for a full listing of the requirements.

In addition to this manual, the Missouri Department of Natural Resources (department) has many fact sheets and guidance documents available on its website to help you with compliance. The department encourages you to browse and use these resources: dnr.mo.gov/pubs.

You also may find the state's Small Quantity Generator Inspection Checklist particularly helpful as a key to most of the regulatory requirements. This checklist is available online at dnr.mo.gov/forms/780-1602.pdf.

Additional checklists for Small Quantity Universal Waste, Solvent Contaminated Rags, and Used Oil also are available online at dnr.mo.gov/forms/#HazardousWaste.

Some hazardous waste regulations changed in spring 2019 due to Red Tape Reduction efforts and again with the potential adoption of federal regulations in 2020. This handbook is up to date with the changes in effect on March 31, 2019. The department encourages you to watch for information about upcoming regulation changes on its Rules in Development webpage at dnr.mo.gov/env/hwp/rules-dev-hwp.htm.

Note: Missouri has adopted and references the Code of Federal Regulations for hazardous waste regulations dated July 1, 2013.

If you have any questions regarding the regulations or this handbook, call the Waste Management Program at 573-751-3176. You also may email the department at hazwaste@dnr.mo.gov.

<h1>The Compliance Process</h1>	Steps to follow by Generators	
	Small Quantity Generators	Conditionally Exempt Small Quantity Generators
Step 1 - Identify Your Wastes The law requires that you evaluate your waste to determine if it meets the definition of being hazardous.	X	X
Step 2 - Register Your Wastes If you produce a hazardous waste and generate or accumulate the regulated quantity, you must complete hazardous waste generator registration forms and submit them to the department along with the registration fee.	X	
Step 3 - Storing and Labeling Wastes Hazardous waste must be stored in compliant containers and labeled properly.	X	
Step 4 - Safety Requirements Regulated generators are required to meet several safety standards.	X	
Step 5 - Transportation, Management and Disposal Most generators of waste use the services of companies specializing in the transportation and management of waste materials.	X	X
Step 6 - Submit Generator Reports and Pay Applicable Fees and Interest The law provides for the collection of fees from those facilities generating and disposing of hazardous wastes. SQGs must prepare and submit a Hazardous Waste Summary Report annually. The report is due on August 15 and covers the period July 1 through June 30.	X	

Step 1

Identifying Your Waste



Identifying Your Waste

This chapter is a general overview to help generators identify hazardous waste. The Hazardous Waste Management Regulations require a generator to determine whether each of its waste streams is hazardous.

What is a Solid Waste?

The regulatory definition of a solid waste is found in the Code of Federal Regulations (CFR) 40 CFR 261.2. In order for a material to be a hazardous waste, it must first be classified as a solid waste.

Please note that the definition of solid waste is not limited to wastes that are physically solid. Many, if not most, solid wastes are liquid, semi-solid or contained gaseous materials.

In general, any material a facility produces other than products used for their intended purposes are considered to be solid wastes. Solid wastes consists of any garbage or refuse, sludge from wastewater treatment, residue from air pollution control equipment and other discarded materials resulting from industrial, commercial, mining and agricultural activities.

For example, usable toluene solvent is not a solid waste, because it is still capable of being used for its intended purpose (i.e., not a waste). However, spent toluene solvent is a solid waste, since it is no longer a product that can be used for its intended purpose. It is also classified as a hazardous waste.

A solid waste is defined in the regulations as any material that is discarded by being:

- **Abandoned:** The term abandoned means thrown away. A material is abandoned if it is disposed of, burned, incinerated or sham recycled. In addition, any material that is treated as if it had no value may be considered abandoned (for example, expired chemicals stored in the back corner of a warehouse or outside along the property line).
- **Inherently Waste-Like:** Some materials pose such a threat to human health and the environment that they are always considered solid wastes. An example of inherently waste-like materials, include halogen-containing materials that are burned in halogen-acid furnaces. This category probably does not apply to you.
- **Recycled:** A material is recycled if it is:
 - Applied to or placed on the land as its intended purpose (use constituting disposal).
 - Reclaimed.
 - Burned for energy recovery.
 - Accumulated speculatively.

Specific exclusions to the definition of solid waste are listed at 40 CFR 261.4(a). Many of these exclusions are related to recycling.

The department recommends that you use its form (or one of your own design) to identify and document each of the waste streams that you generate on-site and how you manage them: dnr.mo.gov/forms/780-2219-f.pdf.

What is a Hazardous Waste?

After a facility determines it generates a solid waste, and the waste is not excluded from the definitions of solid or hazardous waste, it must determine if each of the wastes are hazardous. The regulatory definition of a hazardous waste is found in 40 CFR 261.3. Your regional or national trade association or the department may be able to provide guidance.

Wastes are considered hazardous if they meet one of the following criteria:

1. The name of the substance is included on any of the hazardous waste lists found in the regulations ("Listed Hazardous Waste") (see 40 CFR 261.30).
 - F-List: Hazardous wastes from non-specific sources.
 - K-List: Hazardous wastes from specific sources.
 - P-List: Acute hazardous wastes from commercial chemical products, off-specification materials, container residues and spill residues.
 - U-List: Hazardous wastes from commercial chemical products, spill residues or off-specification materials.

Please note that the constituents on the P and U listings are for "unused sole active ingredients." A spent product or a product with a mixture of two or more active ingredients would not meet the listing definition and thus would not be considered as "listed hazardous waste."

2. The waste exhibits any one, or a combination, of the following four characteristics ("Characteristic Hazardous Waste"):

Ignitability – D001 (40 CFR 261.21)

The ignitability characteristic identifies wastes that can catch fire readily and sustain combustion. Most ignitable wastes are liquids. EPA uses one of two flash point tests (see 40 CFR 261.21) as a method to determine whether a liquid is combustible enough to deserve regulation as hazardous. A liquid is considered an ignitable hazardous waste if it exhibits a flash point less than 60°C (140°F).

Some wastes in solid form can also catch fire readily and sustain combustion. Non-liquid waste is considered ignitable if it can spontaneously catch fire or catch fire through friction or absorption of moisture under normal handling conditions. Some compressed gasses and substances meeting the Department of Transportation definition of oxidizer are classified as ignitable wastes. Ignitable wastes carry the waste code D001 and are among the most common hazardous waste.

Corrosivity – D002 (40 CFR 261.22)

The corrosivity characteristic identifies wastes that are either strong acids or alkalines (bases). Corrosive wastes can readily corrode or dissolve flesh, metal or other materials. To be classified as corrosive, the waste must be a liquid and have a pH less than or equal to 2 or greater than or equal to 12.5 as determined by a pH meter or other approved method (see 40 CFR 261.22). Non-liquid wastes are not evaluated for corrosivity. Wastes that can corrode steel at a rate of 6.35mm (0.25 inch) per year also are classified as corrosive wastes.

Corrosive wastes carry the waste code D002, and they also are some of the most common hazardous wastes.

Reactivity – D003 - (40 CFR 261.23)

The reactivity characteristic identifies wastes that readily explode or undergo violent reactions. Reactive hazardous wastes are relatively uncommon and are defined largely by criteria from EPA. Waste handlers are required to use their best judgment in determining if a waste is sufficiently reactive to be regulated.

Criteria of reactive wastes include:

- It explodes or violently reacts when exposed to water or under normal handling conditions.
- It creates toxic fumes or gasses when exposed to water or under normal handling conditions.
- It meets the criteria for classification as an explosive under Department of Transportation regulations (see 49 CFR 173.51, 173.53 and 173.88).
- It generates toxic levels of sulfide or cyanide gas when exposed to materials with a pH range of 2 through 12.5. Reactive wastes carry the hazardous waste code D003.

Toxicity – D004 to D043 (40 CFR 261.24)

The toxicity characteristic identifies wastes likely to leach dangerous concentrations of toxic chemicals into the environment. EPA uses the Toxicity Characteristic Leaching Procedure (TCLP) laboratory method and analysis to determine if a waste is classified as toxic. The sample results are compared to the specified regulatory levels in Appendix A, Table 1. If the levels equal or exceed the levels in the table, the waste is considered to be a toxic hazardous waste. Toxic wastes carry the hazardous waste code that corresponds to the toxic contaminant causing it to be hazardous. These waste codes are found in Table 1.

If you are unable to identify the waste materials, seek assistance from your chemical supplier. Your supplier will be able to provide a Safety Data Sheet (SDS). This will help to determine if any of the materials used in your process might contain hazardous materials. Please note however that the SDS should not be your sole source of information as the SDS only has to report hazardous chemicals that make up at least 1 percent of the total ingredients. Most characteristic hazardous waste thresholds are well below the 1 percent cutoff.

In some cases, it may be necessary to submit a representative sample of your waste to an environmental laboratory to test for characteristics. It is not typically necessary to test for listed hazardous waste. This is because the F, K, P or U listed wastes in 40 CFR 261 Subpart D, have specific definitions in the regulations for why they are hazardous rather than a concentration level. The source or activity that created the solid waste is what makes it a listed waste.

Periodic evaluations of waste materials should be performed. Retain all records of any results obtained for a period of at least three years after the last off-site shipment. You are required to reevaluate your waste streams when a change in raw materials or a change in your facility's process occurs. If your waste streams are determined to not be hazardous, do not discard your records. The information may be needed at a future date to verify the results.

Specific exclusions to the definition of hazardous waste are listed at 40 CFR 261.4(b).

Hazardous Waste Mixtures - In general, mixing a listed hazardous waste with a non-hazardous waste will result in the entire volume being regulated as a hazardous waste. This includes mixing liquids with liquids and mixing solids with liquids. It is a good management practice to keep hazardous and non-hazardous waste separated while in storage.

Environmental Testing Laboratories - The process of identifying hazardous waste characteristics may require the services of a knowledgeable laboratory. The department has not established a certification program for laboratories. Therefore, the department makes no endorsement of the credibility or reliability of any laboratory. Be certain that the lab you choose is experienced, qualified and uses EPA-approved techniques for analyzing your waste materials.

OK, I Am A Hazardous Waste Generator. Now what?

Missouri regulations identify three categories of hazardous waste generators based upon the sum total of all hazardous wastes generated per month:

1. Conditionally Exempt Small Quantity Generators (CESQGs) do all of the following:
 - Generate less than 100 kilograms (kg) (220 pounds or approximately 25 gallons) of hazardous waste in one calendar month.
 - Accumulate less than 100 kg of hazardous waste at any one time.
 - Generate less than 1 kg (approximately 2.2 pounds) of acute hazardous waste in one calendar month.
 - Accumulate less than 1kg of acute hazardous waste and less than 100 kg of residue from the cleanup of an acute waste spill at any one time.
2. Small Quantity Generators (SQGs) do any of the following:
 - Generate more than 100 kg but less than 1,000 kg (2,200 pounds or approximately five 55-gallon drums) of hazardous waste in one calendar month.
 - Generate less than 1 kg of acute hazardous waste in one calendar month.
 - Accumulate less than 1 kg of acute hazardous waste and less than 100 kg of cleanup residues of acute waste spills at any one time.
 - Accumulate less than 6,000 kg (approximately 13,200 pounds) of hazardous waste.
3. Large Quantity Generators (LQGs) do any of the following:
 - Generate 1,000 kg or more of hazardous waste in one calendar month.
 - Generate or accumulate more than 1 kg of acute hazardous waste or more than 100 kg of residue from the cleanup of a spill of an acute hazardous waste.

A generator's acute-hazardous waste cannot be counted separately from other hazardous wastes. For example: LQG status cannot be maintained for acute waste and then maintain SQG status for all other hazardous wastes. Failing to meet any single criteria noted in a generator category above will cause the facility to fall into one of the larger generation categories. For example, even if a facility generates less than 100 kg in a calendar month, if an amount greater than that is accumulated on-site this facility is no longer considered CESQG.

Each category of generator must comply with the hazardous waste regulations specific to that category.

Step 2

Registering Your Facility and Waste

Registering Your Facility and Waste

10 CSR 25-5.262

The generation of waste creates a waste stream. Business operations typically produce more than one waste stream. Each different waste stream must be identified and characterized. As discussed in Step 1, hazardous waste streams are identified by specific hazardous waste codes found in regulation. A hazardous waste generator is required to know if and how its wastes are hazardous, the quantity of each waste, and how often it is generated.

If you are classified as a Small Quantity Generator or a Large Quantity Generator, your facility and hazardous waste streams must be registered with the department using a Notification of Regulated Waste Activity Form. A regulated quantity of hazardous waste is the sum total of all hazardous waste streams together generating more than 100 kg within a calendar month, or accumulated at any one time.

In a similar manner, any one waste or combination of wastes from the P-List totaling 1 kg or more accumulated at any time or generated within one month also requires registration with the department. P-listed wastes are considered acutely toxic and are regulated at these lower levels.

Waste generation totals are registered on a per-site basis. If your operation is conducted at more than one location, each individual site producing a regulated quantity of hazardous waste requires a separate registration with the department. A facility having more than one source of hazardous waste generation may be considered an individual site only if all generation occurs on a single, or contiguous, property.

Conditionally exempt generators of hazardous waste may choose to register also, but are not required to do so.

A \$150 registration fee is required for CESQGs and SQGs at the time of initial registration. If a particular site previously has been issued an identification number but the registration has been inactive, or if the registration is being transferred to another business or individual, then an updated registration form is required. A \$150 registration fee may be required depending on the specific circumstances of the re-activation or transfer. Registered generators also are required to file an updated registration form if any of the information previously filed with the department changes.

To register your business as a hazardous waste generator, you must complete and sign the Notification of Hazardous Waste Activity form. This form is available on the department's website at dnr.mo.gov/forms/780-1164-f.pdf. After completing the form, retain a copy for your records and submit the original with a check to:

Missouri Department of Natural Resources
Waste Management Program
P.O. Box 176
Jefferson City, MO 65102-0176

After reviewing the form, the department will issue two numbers to identify your company:

1. Missouri Generator Identification Number.
2. Federal (EPA) Generator Identification Number.

These numbers will be used as a continuing part of your hazardous waste management system and are unique to the identity of your facility site. They will be used during routine correspondence with the department and when preparing manifests and manifest summary reports, which are discussed elsewhere in this handbook.

Requirements for Reclamation of Hazardous Waste

40 CFR 261.6 c-d

Typically, generators of hazardous waste may not treat the waste on-site. However, EPA has granted a few exceptions if certain conditions are met. Because EPA wishes to encourage recycling, recycling hazardous waste is one of the exceptions. Hazardous waste generators may recycle (reclaim) the wastes on-site via the following allowable activities:

1. Recovering usable solvent from distillation units.
2. Precious metal reclamation.
3. Crushing filters to remove solvents.
4. Reclamation of foundry sands.
5. Several other less common recycling processes.

Note: The hazardous waste awaiting reclamation remains a hazardous waste until it is reclaimed and must be stored in containers and tanks that meet the storage requirements discussed in Step 3 to follow. Also note, materials that will be burned for energy recovery or that will be placed on the ground for its intended purpose will not qualify for the recycling exemption.

Requirements for Reclamation of Hazardous Waste as Hazardous Secondary Materials

40 CFR 260.43

In a further effort to encourage recycling, EPA has developed, and the department has adopted, regulations that allow hazardous wastes to be recycled as Hazardous Secondary Materials (HSM). HSM are exempted from solid waste regulation and thus are not hazardous waste. Therefore, the facility does not have to pay hazardous waste disposal fees to the State of Missouri on the material. In addition, the generation of HSM does not count toward the hazardous waste generation rate. To meet the HSM exemption, the generator must notify the department of its activity. This is accomplished by filling out an addendum to the Notification of Regulated Waste Activity Form (dnr.mo.gov/forms/780-1164-f.pdf). Further, the material must be handled in a very similar manner as hazardous waste with a slightly less stringent regulatory burden. For example, drums awaiting reclamation must be in good condition, but they do not need to be labeled as hazardous waste, don't need an accumulation start date and can be stored beyond 180 days as long as they are recycled within the year.

There are two common types of exclusions: materials reclaimed under the control of the generator and materials transferred to another facility for reclamation. To qualify as "under the control of the generator" the materials must be reclaimed on-site or at another facility owned by the generator. The materials can be shipped from one generator facility to another via a bill of lading as opposed to a manifest for hazardous waste shipments.

The requirements for managing HSM under this provision include:

- Containers and tanks are in good condition.
- Material is reclaimed within one year of generation.
- SQG emergency preparedness and response requirements apply for facilities that accumulate less than 6,000 kg.
- LQG emergency preparedness and response requirements apply for facilities that accumulate over 6,000 kg.
- Generators must document that the reclamation is legitimate.
 - HSM must provide a useful contribution to the product.
 - Process must produce a valuable product or intermediate.
 - Material must be managed as a valuable commodity.
 - Generator must consider if the reclaimed product:
 - Contains higher concentrations of hazardous material.
 - Contains hazardous constituents not found in similar products.
 - Exhibits a hazardous characteristic not found in similar products.

To qualify for the exemption as “materials transferred to another facility” both the generator and the receiving facility must notify the department of the activity. The receiving facility must either be a RCRA TSD facility or must notify the department as a reclamation facility. The requirements for handling HSM under this exclusion are identical to those listed above. In addition, for each off-site shipment the name of the transporter, date of shipment, the name and address of the receiving facility, and the amount and type of material reclaimed must be recorded. These records must be maintained by both the generator and the receiving facility for no less than three years.

The HSM requirements are specified in the 2018 or later version of 40 CFR 261.4 (a) (23) and (24).



Step 3

Storing and Labeling

Storing and Labeling Hazardous Waste

40 CFR 262.34

The safe handling and storage of hazardous waste is vitally important. Consequently, storage and labeling standards have been established by regulation. This section discusses satellite accumulation, hazardous waste storage, labeling requirements and storage time limits.

The quantity of hazardous waste accumulated on-site at a SQG must never exceed 13,200 pounds (6,000 kilograms) or the facility would be in violation of operating as a storage facility without a permit.

Satellite Storage

40 CFR 262.15 and 10 CSR 25-5.262 (2) (C) 3

The satellite storage provision, which has more lenient standards, permits a generator to accumulate and store hazardous waste in containers at or near the point of initial generation, provided that the containers are under the control of the operator of the process generating the waste. Missouri generators have two satellite accumulation options descriptively titled “Federal Option” or “State Option.”



The following conditions must be met when accumulating hazardous waste at satellite areas under either option:

1. The hazardous waste must be in a container that is in good condition, free of rust, damage and leaks.
2. The waste must be compatible with the container.
3. The container must remain closed except when adding or removing waste. Closed generally be can be defined as the container will not spill if it is tipped and will not allow the escape of flammable vapors.
4. The container must be marked with the words “Hazardous Waste” or other words that adequately describe the contents.
5. Within three days of filling, the container must be transferred to the primary storage area.

The Federal Option (40 CFR 262.15) allows the use of multiple containers of each waste stream as long as the total volume of waste in the area does not exceed 55 gallons. In addition, there are no time limits on satellite storage under the Federal Option.

Under the State Option (10 CSR 25-5.262 (2) (C) 3) the generator is allowed up to 55 gallons for each waste stream. However, you are limited to one container per waste stream. In addition, you must mark each container with an accumulation start date. Regardless of how small the quantity may be, the satellite storage waste must be transferred to the primary hazardous waste storage area for your facility within one year of the starting accumulation date. When the container is

transferred to the primary storage area, a new beginning accumulation date is marked on the container.

The Federal Option is considered the default option by department inspectors. If a facility wishes to operate a satellite area under the State Option, you must indicate this choice by placing an accumulation start date on the container.

Generators that have more than one satellite accumulation area in a single facility may use the Federal Option or the State Option for any satellite accumulation area. However, in no case shall a generator employ both methods in the same satellite accumulation area at the same time.

Primary Hazardous Waste Container Storage Areas

40 CFR 262.16

A container is defined as “any portable device in which a material is stored, transported, treated, disposed of or otherwise handled.” Containers are constructed of various materials and come in sizes ranging from less than a gallon to 55-gallon drums, as well as Gaylord Boxes and Super Sacs.

During the entire time hazardous waste is stored on-site, a generator must comply with the following rules:

1. The container must be in good condition. If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition.
2. The container must be compatible with the waste stored in it. The owner or operator must ensure that the materials within the container are compatible with it so that the ability of the container to hold the waste is not impaired.
3. Incompatible wastes must not be placed in the same container. Federal regulation 40 CFR 265.17 (b) establishes restrictive criteria where the mixing of incompatible waste is allowed. However, this option is not recommended.
4. A berm, dike, or other device must separate incompatible wastes stored in the same area.
5. Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material.
6. A container holding hazardous waste must always be closed during storage, except when adding or removing waste. Closed generally is defined as the container will not spill if it is tipped and will not allow the escape of flammable vapors.
7. A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.
8. The owner or operator must inspect the storage area and all hazardous waste containers at least once each week, checking for signs of corrosion and leaking. The department recommends keeping an inspection log.
9. Adequate aisle space must be maintained between containers to allow the unobstructed movement of personnel and emergency response equipment.

Labeling Containers

10 CSR 25-5.262 (2) (C) 1

From the time the storage begins, the container must be labeled with the words “Hazardous Waste” and marked with the accumulation start date. The accumulation start day is the day, month and year that you placed the first drop of waste in the container or moved the container to the primary storage area. Most generators use a commercially prepared “Hazardous Waste Label” for this requirement.

Tank Storage

40 CFR 262.34 (d) (4)

A tank is defined as “a stationary device, designed to contain an accumulation of hazardous waste that is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, or plastic) which provide structural support.” The storage of hazardous waste in a tank by a Small Quantity Generator is permissible if they comply with the following rules.



1. Hazardous wastes must not be placed in a tank if it could cause the tank or its inner liner to rupture, leak, corrode or otherwise fail.
2. Ignitable or reactive wastes may not be stored in a tank unless precautions have been taken that will prevent it from igniting or reacting. Buffer-zone requirements apply. (See 40 CFR 265.201)
3. If waste is continuously fed into a tank, the tank or feeder line must be equipped with a device such as a shut-off valve or by-pass system capable of stopping the flow in the event of an emergency.
4. At least once each operating day, the generator must inspect the operating condition of the tank system to be certain that it is in good working order. Daily records are required to be maintained for all monitoring equipment.
5. If you use an open top tank, you must check on the level of waste in the tank at least once each operating day to ensure that a minimum of 2 feet is maintained between the level of waste in the tank and the tank top.
6. Mark or label the tank with the words “Hazardous Waste.”
7. Use inventory logs or other records that demonstrate the tank has been emptied within 180 days of waste first entering the system.

Storage Time Limits

Time limits have been established for the storage of hazardous waste. The storage time begins with the accumulation starting date, which is the day, month and year when the very first drop of waste is placed in the container. Hazardous waste may be stored in a container in the satellite accumulation area for a period of up to one year if using the Missouri option. Once accumulation of waste has begun in the hazardous waste storage area of the facility, a Small Quantity Generator may store the waste up to the maximum of up to 180 days. You may store the waste for up to 270 days if the waste is shipped off-site to a facility more than 200 miles away from your location.

Step 4

Safety Requirements

Safety Requirements

40 CFR 262.34 (d) (4) and (5)

Generators of regulated quantities of hazardous waste are required to meet safety standards as prescribed by Missouri and Federal Regulations.

Mandatory Safety Requirements

- Employees handling waste must be familiar with waste handling and emergency procedures.
- An emergency coordinator must be available (on premises or on call) at all times to respond to an emergency at the facility.
- The facility must attempt to make arrangements with local emergency agencies including fire department, police department, the local hospital and emergency response teams. You must document any refusal by state and local responders to enter into those agreements and arrangements in your facility's operating record. The department recommends that you retain it on-site for the lifetime of the facility or until the situation changes. This is one of the most common violations cited by department hazardous waste inspectors.
- The facility must be operated and maintained to minimize the possibility of an explosion, fire or accidental release of a hazardous waste. A clean and orderly work place is the best policy.
- Adequate water supply, fire extinguishers, hoses or other appropriate equipment must be available at all times. The equipment is to be regularly tested and maintained in good working order.
- Appropriate spill-control equipment, decontamination and safety equipment must be available, tested and maintained on-site.
- If no direct alarm is available, the telephone number of the fire department and police must be posted by the telephone.
- The emergency coordinator's name and telephone number must be posted near the telephone.
- The locations of all fire extinguishers and control equipment must be posted by the telephone.
- A working alarm system, intercom, telephone or other communication, alert or safety device must be convenient and available for all employees to summon assistance in the event of an emergency.

Emergency Reporting

In the event of a fire, explosion or spill involving hazardous waste that endangers surface water, human health or the environment, the emergency coordinator must contact the Missouri Emergency Response Center at 573-634-2436, and the

EPA National Response Center at 800-424-8802. Generally speaking, the reportable quantity for a hazardous waste released to the environment ranges from 1 to 100 pounds. You can find the exact quantity for your specific wastes in the table found in 40 CFR 302.4.



Step 5

Management, Transportation and Disposal of Hazardous Wastes

Management, Transportation and Disposal of Hazardous Waste

Some types of waste may be managed properly and legally at your facility. Other types require shipment to businesses that specialize in storage, recycling, treatment and disposal technologies. The SQG is responsible for deciding which method of hazardous waste management is the best for its facility in terms of regulatory compliance, future liability, potential adverse environmental impact and cost.

This section covers waste-management options available to SQGs such as recycling, disposal facilities and sanitary sewer systems. Transportation requirements and use of the hazardous-waste manifest also are found in this section.

Hazardous Waste Minimization

Often the best management option is to find replacement materials that do not create hazardous waste when used. For example, many industrial suppliers can provide a non-listed petroleum-based solvent that has a flash point over 60°C (140°F). This material usually can be handled as non-hazardous when it is discarded. While this material may not be appropriate for all applications, it could suffice for some facilities. Likewise, the substitution of water-based paint or powder paint for solvent-based paint can be a major source of waste reduction. These are just two examples. Your industrial associations and material suppliers can provide more recommendations.

Recycling

If your process cannot be made non-hazardous, waste recycling (reuse of materials) may be an acceptable method of management. This recycling process can often be accomplished at your business location through the use of a distillation unit. Refer to the "Requirements for Reclamation" in Step 2.

Treatment, Storage and Disposal (TSD) Facilities

If you cannot recycle your hazardous waste, it will be necessary to use a company that can manage your waste for you. Thirteen commercial facilities are available in the state of Missouri, and many others are located in nearby states. You may contact one of these facilities or any of a number of out-of-state facilities that have a permit to manage your particular type of waste. These facilities will often help you in selecting a hazardous waste transporter as well. Brokering facilities also are available throughout the state.

The facility you choose must have a permit to receive and manage the waste. Commercial facilities within the state of Missouri are permitted by the department. For facilities outside of the state, you should contact that state's environmental regulatory agency to ensure the facility has the appropriate permits or approval to receive the wastes being shipped.

Sanitary Sewer System

If your facility is located in an area serviced by a public sanitary sewer system in which your process waste mixes with domestic sewage, you may be able to legally discharge your waste into the sewer system. Before attempting any discharge of a waste into a sanitary sewer system, you must clearly identify your wastes and obtain permission from the local public sewer district to discharge these

wastes to the sewer system. Because of their chemical characteristics, many wastes are capable of destroying the biological activity of a wastewater treatment process and are not to be disposed in this manner. Ignitable wastes are prohibited since they could cause fires or explosions in the sewer system.

Likewise, do not discharge hazardous waste into a stormwater system, septic tank, aerated septic tank, or other similar device. To do so is a violation of state and federal regulation and may cause significant harm to the environment.

Transportation Requirements for Hazardous Waste

Hazardous waste from a Small or Large Quantity Generator must be transported by a waste hauler who has a valid EPA identification number and a Missouri hazardous waste transporter license. To locate a licensed transporter, refer to the list of licensed hazardous waste transporters located on the department's website at dnr.mo.gov/env/hwp/transporters.php.

CESQGs may transport their own hazardous waste directly to a TSD facility without using a manifest or licensed hazardous waste transporter. The CESQG will need to follow U.S. Department of Transportation requirements for the wastes being shipped. The waste must be transported to a facility that is permitted or certified to accept your specific hazardous waste. If the CESQG cannot self-transport the waste, it will need to use a Missouri-licensed hazardous waste transporter to ship the waste.

Hazardous Waste Manifests

40 CFR 262.20

Before offering hazardous waste for transportation, the generator must prepare a shipping document known as a "Uniform Hazardous Waste Manifest." This document is similar to a bill of lading and is one of the essential pieces of paperwork used in a hazardous waste management system.

The manifest accompanies the shipment of hazardous waste to the designated treatment, storage and disposal facility. During this time, three individuals will sign the document. Those signing include:

- The generator's authorized representative.
- The transporter (multiple transporters must use the Continuation Form and each transporter must sign the documentation).
- An authorized representative of the designated facility.

These signatures provide written proof of the waste's mode of travel and destination.

It is the designated facility's responsibility to ensure the original copy of the manifest is submitted to EPA. The generator must retain an additional copy of each manifest in the files at the generating site. The generator must retain those records for a minimum of three years. The generator must receive a copy of the original manifest from the designated facility within 35 days of the date the waste was accepted by the initial transporter. If the generator does not receive the copy of the manifest within the timeframe, the generator must file a Hazardous Waste Generator's Exception Report. The generator must file the report with the department within 45 days of the date of the original shipment.

Manifests are available for sale by vendors designated by the U.S. Environmental Protection Agency. For questions related to manifests, contact the department at 573-522-5665 or visit the department's website at dnr.mo.gov/env/hwp/enf/manifests.htm.

Electronic Manifests

40 CFR 262.24

EPA and the department have approved and encourage the use of electronic manifests in lieu of paper forms. All of the above requirements still apply. To use an e-manifest the generator must register on the national e-manifest system. EPA is encouraging all generators to begin using the e-manifest system.

Requirements for Used Oil Generators

40 CFR 279 and 10 CSR 25-11.279

Federal regulation defines used oil as any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use is contaminated by physical or chemical impurities. The State expands that definition to include any oils that have been spilled into the environment or used for lubrication or as a cutting oil, heat transfer, hydraulic power or insulation in dielectric transformers.

The improper disposal of used oil may cause damage to groundwater and surface water. The proper handling of used oil prevents pollution and promotes reuse of this valuable resource. In Missouri, used oil is not considered a hazardous waste as long as it is ultimately recycled, and generators are not required to register with the department. However, they are required to manage their used oil in a responsible manner.

Requirements for used oil generators include:

- Used oil is managed properly and not disposed of into the environment.
- Used oil storage containers are kept in good condition.
- Used oil storage containers are not leaking.
- Storage containers and above ground tanks are labeled or clearly marked "Used Oil."
- Fill pipes to transfer used oil into underground storage tanks are labeled or clearly marked "Used Oil."
- Storage containers that are exposed to rainfall are kept closed.
- All spills or leaks of used oil are properly cleaned up.
- Mixtures of used oil and hazardous wastes are properly managed.



Generators of used oil are allowed to self-transport up to 55 gallons of used oil to approved collection centers or to aggregation points owned by the same generator, so long as they use their own vehicle or an employee's vehicle.

Generators of used oil may burn their own used oil, as well as used oil received from household do-it-yourselfers and exempt farmers, in used oil-fired space heaters that have a design capacity of not more than 0.5 million BTU per hour and are vented to the ambient air. You may not accept used oil from other generators for burning or take your used oil to other generators for burning. For more information about proper management of used oil, visit the department's website at dnr.mo.gov/env/hwp/enf/usedoil.htm.

You may also use the Used Oil Attachment of the Inspection Checklist to reference the regulations and for self-auditing for compliance. The checklist is available on our website at dnr.mo.gov/forms/780-2526-f.pdf.

Universal Wastes

40 CFR 273 and 10 CSR 25-16.273

Universal wastes are hazardous wastes managed under less-stringent requirements if certain criteria are met. Universal wastes in Missouri include:

- Batteries, such as nickel-cadmium batteries, mercury, silver or lithium "button" batteries and small, sealed lead-acid batteries found in electronic equipment, mobile telephones, portable computers and emergency backup lighting. Lead acid batteries also may be managed as a Universal Waste.
- Mercury-containing equipment such as thermostats, mercury switches and mercury-containing thermometers and manometers.
- Mercury-containing lamps including fluorescent, high-pressure sodium, mercury vapor, metal halide and high intensity discharge lamps.
- Pesticides that have been recalled or banned from use if managed under the state's standard operating procedures for waste pesticide collection.



Small Quantity Universal Waste Handlers:

Small quantity handlers of universal wastes are defined as facilities that generate or accumulate less than 11,000 pounds (5,000 kg) of universal waste. Small quantity handlers generating only universal wastes that they manage under this rule do not need to register or obtain an EPA identification number or keep records of universal wastes received or shipped. However, the following requirements apply:

- Must not dispose of a universal waste into the environment.
- Must not dilute or treat a universal waste or break or crush mercury containing lamps.
- Must follow the waste management requirements stated in the rule for the particular waste(s) being managed.
- Must prevent releases to the environment.
- Must store Universal waste in appropriate containers.
- Must label waste containers with a description of the waste such as "waste batteries" or "waste lamps" as described in the rule.
- Must train employees on proper handling and emergency procedures.
- Must respond to spills and manage the spill residue as hazardous waste.
- May accumulate universal waste on-site for up to one year. The container must be marked with an accumulation start date (or other valid dating method such as maintaining an inventory log).
- May accumulate universal wastes for more than one year for the sole purpose of facilitating proper recovery and disposal.
- May accept universal wastes from off-site and keep them for up to one year (excluding pesticides).
- May self-transport the universal waste to an authorized destination facility or Missouri Certified Resource Recovery Facility (for pesticides, to a Missouri Pesticide Collection Program).

If self-transporting, the handler is required to meet universal waste transporter requirements in the rule.

In Missouri, any business that generates or accumulates less than 100 kilograms (220 pounds) of hazardous waste per month or at any one time has the option to treat these wastes as either hazardous waste or universal waste. However, these small businesses are encouraged to participate voluntarily in the universal waste system by using handlers and collection centers that legitimately recycle or dispose their universal wastes. The following fact sheet provides more information: dnr.mo.gov/pubs/pub2058.htm.



Step 6

Fees, Summary Report and Late Fees and Interest

Hazardous Waste Fees, Summary Report, Late Fees and Interest

Generators of hazardous waste are required by regulation to pay certain fees each year based on the amount of hazardous waste generated. These fees are deposited to the Hazardous Waste Fund and used to help ensure compliance with requirements for proper handling of hazardous waste, as well as cleanup of sites already contaminated.

Tonnage Fee

Businesses generating regulated quantities of hazardous waste are assessed a tonnage fee based on the amount of waste generated or shipped off-site for treatment, storage or disposal. This fee is \$200 for the first ton and \$6.10 per ton thereafter. There are no exemptions from this fee. The fee is outlined in section 260.380.1.(10) of the Missouri statutes.

Land Disposal Fee

Businesses that dispose of their hazardous waste into or on the land also will be charged \$29.50 per ton on all waste disposed of in this manner. This fee is outlined in section 260.475.1 of the Missouri statutes and is not charged unless 10 tons or more are generated during a given reporting year.

Generator's Hazardous Waste Summary Report Form

In order to be assessed properly, generators must complete and submit to the department the Generator's Hazardous Waste Summary Report Form. Small Quantity Generators need to submit these forms annually by Aug. 15. You must report the total amount of hazardous waste shipped off-site during the previous state fiscal year (July 1 to June 30). If at any time the facility generates or stores enough waste to be classified as a large quantity generator, they must file a Notification of Regulated Waste Activity form indicating the change and begin filing the Summary Report Form quarterly. The Generator's Hazardous Waste Summary Report, Parts I and II, and its instructions, are available on the department's website. It is recommended you keep a copy of the form as a master, and photocopy them as needed for your facility. You will be billed for the appropriate fees by the first of December each year based upon the amount of hazardous waste generated during the previous state fiscal year. Payment is due before Jan. 1 of the next calendar year.

This report may also be completed and filed electronically. The electronic form with instructions is available online at dnr.mo.gov/forms/780-1097.pdf.

Late Fees and Interest

Failure to pay the assessed fees in a timely manner will result in a 15 percent late fee asff required by law. Late or untimely payment of any assessed Land Disposal Fee will result in an interest rate of 10 percent per annum also being charged.

Appendices

Appendix A

Table 1 - Toxic Hazardous Wastes - 40 CFR 261.24

EPA Waste No.	Constituent	CAS Number	Regulatory Level
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-20	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon Tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	200.0
D024	m-Cresol	108-39-4	200.0
D025	p-Cresol	106-44-5	200.0
D026	Cresol		200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its hydroxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	0.13
D033	Hexachloro-1,3-butadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentachlorophenol	187-86-5	100.0
D038	Pyridine	100-86-1	5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8000-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	195-95-4	400.0
D042	2,4,6-Trichlorophenol	188-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

Appendix B- Checklist for Compliance with Regulations

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Do you have documentation on the amount and kinds of hazardous waste that you generate and how you determined that they are hazardous?
<input type="checkbox"/>	<input type="checkbox"/>	Do you have an EPA and Missouri identification number?
<input type="checkbox"/>	<input type="checkbox"/>	Do you ship wastes off-site?
<input type="checkbox"/>	<input type="checkbox"/>	If so, do you know the name of the transporter, and the designated treatment, storage and disposal facility that you use?
<input type="checkbox"/>	<input type="checkbox"/>	Do you have copies of completed manifests used to ship your hazardous wastes over the last three years?
<input type="checkbox"/>	<input type="checkbox"/>	Are they filled out correctly and completely?
<input type="checkbox"/>	<input type="checkbox"/>	Have you received the original signed copy of the manifest from the treatment, storage and disposal facility? If not, have you filed an exception report?
<input type="checkbox"/>	<input type="checkbox"/>	Is your hazardous waste stored in proper containers or tanks?
<input type="checkbox"/>	<input type="checkbox"/>	Are the containers or tanks properly marked, labeled and dated?
<input type="checkbox"/>	<input type="checkbox"/>	Have you exceeded any of your storage time limits?
<input type="checkbox"/>	<input type="checkbox"/>	Have you designated an emergency coordinator?
<input type="checkbox"/>	<input type="checkbox"/>	Have you posted emergency telephone numbers and the location of emergency equipment?
<input type="checkbox"/>	<input type="checkbox"/>	Have your employees been thoroughly trained in the proper waste handling and emergency procedures?
<input type="checkbox"/>	<input type="checkbox"/>	Do you understand when to contact the National and State Response Centers?
<input type="checkbox"/>	<input type="checkbox"/>	Have you filed the necessary annual reports with the department?



MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Waste Management Program

**P.O. Box 176
Jefferson City, MO 65102-0176**

Division of Environmental Quality Director: Ed Galbraith

Nothing in this document may be used to implement any enforcement action or levy any penalty unless promulgated by rule under chapter 536 or authorized by statute.